

IN THE CLAIMS:

Please CANCEL Claims 1- 60, and ADD the following claims:

61. (new) A method of requesting genomics Services from a Service Provider and providing genomics Services to a Client comprising:

- under control of said Client,
 - providing one or more biological samples;
 - identifying one or more genome sequences;
- under control of said Service Provider,
 - obtaining said samples and said genome sequences;
 - providing one or more microarrays wherein each of said microarrays contains at least one of said genome sequences;
 - applying at least one of said biological samples to at least one of said microarrays; and,
- under control of said Client,
 - receiving data representative of said applying step over the Internet.

62. (new) The method of Claim 61 wherein said step of providing one or more biological samples comprises:

- under control of said Service Provider;
 - providing a repository of biological samples;
 - providing a catalog of said repository;
- under control of said Client;
 - accessing said catalog; and,
 - selecting said biological samples from said catalog.

63. (new) The method of Claim 62, wherein said steps of providing a catalog and accessing said catalog occur over an Internet connection between said Client and said Service Provider.

64. (new) A process for remotely selecting samples from a biological repository comprising:

- under control of a Service Provider;
 - providing a database of said samples in said biological repository;
 - providing a network connection to said database accessible by a Client;
- under control of a Client;
 - accessing said database over said network; and,
 - selecting a subset of said samples from said biological repository.

65. (new) The process of Claim 64 wherein said network is the Internet.
66. (new) The process of Claim 64 wherein said database includes clinical records corresponding to at least a portion of said samples.
67. (new) The process of Claim 64 wherein said database includes phenotype information corresponding to at least a portion of said samples.
68. (new) A process for remotely conducting a genomics experiment comprising:
- under control of a Service Provider;
 - providing a database of biological samples in a biological repository;
 - providing a network connection to said database accessible by a Client;
 - under control of a Client;
 - accessing said database over said network;
 - selecting a subset of said samples from said biological repository;
 - identifying a set of genomic sequences;
 - under control of said Service Provider;
 - determining if said genomic sequences are present in said samples; and,
 - informing said Client of results of said determining step.
69. (new) The process of Claim 68 further comprising under control of said Service Provider:
 - modifying said set of genomic sequences subsequent to said informing step.
70. (new) The process of Claim 68 further comprising identifying said samples with unique identifiers.
71. (new) A method for providing experimental biological Services to a Client comprising:
- receiving a work order from said Client comprising a biological sample portion listing one or more biological samples and an assay portion listing one or more experiments based on said biological samples;
 - performing said one or more experiments on said one or more biological samples; and,
 - transmitting data representative of said performing step to said Client.
72. (new) The method of Claim 71 wherein said receiving step further comprises receiving said biological sample portion of said work order from a remote location.

73. (new) The method of Claim 71 wherein said transmitting step further comprises transmitting said data to a remote location.

74. (new) The method of Claim 71 wherein said receiving step further comprises receiving said biological sample portion of said work order over the Internet.

75. (new) The method of Claim 71 wherein said receiving step further comprises receiving said assay portion of said work order over the Internet.

76. (new) The method of Claim 71 wherein said transmitting step further comprises transmitting said data over the Internet.

77. (new) The method of Claim 71 wherein said assay portion of said work order comprises a list of genes.

78. (new) A method of designing a genomic experiment comprising the steps of:

under control of a Service Provider;
providing access to a Client in a remote location to a database
comprising medically relevant information corresponding to specific
samples, said samples having specific gene regions;

under control of a Client;
accessing the database from the remote location;
determining which of the information is useful in a genomic experiment;
requesting a probe-based assay for the experiment;

under control of the Service Provider;
receiving the request from the Client;
providing an assay responsive to the request.

79. (new) The method of Claim 78 wherein:

- the medically relevant information is gene expression regulation information related to specific gene regions;**
- the database is accessible through an Internet browser program;**
- the assay comprises a multiplicity of probes useful for recognition of the specific gene regions;**
- the assay is selected by Client from among pre-specified assay products made available to Client by the Service Provider.**

80. The method of Claim 78 wherein responsive to the request for a probe-based assay,

the Service Provider designs and provides to the Client a custom assay.